

REMARKS

Claims 17, 18 and 21 were rejected under 35 U.S.C. 102(b) as being anticipated by Sulzbach et al. (US 6,361,723). Claims 17, 18 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. in view of Frankel (NPL – *Facility Piping Handbook*). Claims 19 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. in view of Frankel and further in view of Gebert (US 3,773,298). Claim 22 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. in view of Frankel.

Claim 17 has been amended. Claims 23 to 28 have been canceled.

Reconsideration of the application based on the following remarks is respectfully requested.

Rejections under 35 U.S.C. 102(b)

Claims 17, 18 and 21 were rejected under 35 U.S.C. 102(b) as being anticipated by Sulzbach et al. (US 6,361,723).

Sulzbach et al. discloses

Claim 17 recites “[a] method for manufacturing a foamed polyurethane molded article, the method comprising:

introducing an expandable polyurethane reactive mixture into a mold and evacuating the mold, the mold having a top mold region;

expanding the reactive mixture expands so as to fill the mold;

exhausting gases liberated during the expanding step through one or more expansion openings disposed at one or more points of maximum height in the top mold half, each of the expansion openings being closeable by a needle valve disposed in a valve capillary;

sensing a temporal pressure characteristic in the valve capillary;

controlling each of the one or more needle valves using the temporal pressure characteristic, so as to close the respective expansion opening in response to a pressure drop occurring when the expanding reactive mixture penetrates into the valve capillary;

opening the mold; and

ejecting the molded article.”

It is respectfully submitted that Sulzbach et al. does not disclose “sensing a temporal pressure characteristic in the valve capillary” as required in claim 17 and the Examiner does not address this limitation in the Office Action. The Examiner states in the Office Action, at page 2, “Sulzbach teaches detecting the internal pressure in the mold.” This is clearly not the “sensing a temporal pressure characteristic in the valve capillary” required by claim 17. Sulzbach et al. also does not even explicitly disclose any sensing of pressure anywhere or that expansion channels 7 include valve capillaries. Thus, Sulzbach et al. in no way discloses each and every limitation of claim 17 and cannot anticipate claim 17.

Furthermore, Sulzbach et al. does not disclose “controlling each of the one or more needle valves using the temporal pressure characteristic, so as to close the respective expansion opening in response to a pressure drop occurring when the expanding reactive mixture penetrates into the valve capillary” as recited in claim 17. Sulzbach et al. clearly states and desires that expanding foam penetrates into expansion channels 7 of Sulzbach et al. (Col. 3, Lines 25 to 27). Sulzbach et al. makes no mention of “a pressure drop” when the expanding foam penetrates into expansion channels 7 and specifically teaches away from closing expansion channels 7 using ejection rams 27 when expanding foam penetrates into expansion channels. Ejections rams 27 of Sulzbach et al. are not moved until “[a]fter the foamed moulding is removed from the mould.” (Col. 3, Lines 25 to 27) (Emphasis added).

It is also respectfully submitted that Sulzbach et al. in no way discloses “each of the openings being closeable by a needle valve disposed in a valve capillary” as recited in claim 17. Ejecting rams 27 of Sulzbach et al. are not “needle valves” because ejecting rams 27 are in no way any part of a valve, but are described merely as rams used to clean expansion channels 7 of Sulzbach et al. between uses. (Col. 3, Lines 27 to 31).

Withdrawal of the rejection under 35 U.S.C. 102(b) of claim 17, and claims 18, 21 depending therefrom, is respectfully requested.

Rejections under 35 U.S.C. 103(a)

Claims 17, 18 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. in view of Frankel (NPL – *Facility Piping Handbook*).

Sulzbach et al. is described above.

Frankel describes need valves and states: "Need valves are generally small in size and are intended to provide precise flow and control. Many turns of the handle are required to adjust flow in order to achieve precise control." (Pages 2.68 to 2.69).

As discussed above, it is respectfully submitted that Sulzbach et al. in no way discloses "sensing a temporal pressure characteristic in the valve capillary" or "controlling each of the one or more needle valves using the temporal pressure characteristic, so as to close the respective expansion opening in response to a press drop occurring when the expanding reactive mixture penetrates into the valve capillary" as recited in claim 17. Nor does Frankel. In addition, Sulzbach et al. never mentions any sensing of pressure and clearly states that ejections rams 27 are not moved until "[a]fter the foamed moulding is removed from the mould." (Col. 3, Lines 25 to 27) (Emphasis added). Frankel merely discloses a needle valve and states that needle valves "are generally small in size and are intended to provide precise flow and control." (Pages 2.68 to 2.69). Thus, because Frankel makes no mention of using needle valves in manufacturing any molded article or any similar process and never mentions valve capillaries, Frankel cannot cure the deficiencies of Sulzbach et al. with respect to claim 17. Claim 17 is therefore not unpatentable in view of Sulzbach et al. and Frankel because neither reference, nor the any combination thereof, discloses or makes obvious each and every limitation of claim 17.

Withdrawal of the rejection under 35 U.S.C. 103(a) of claim 17, and claims 18, 21 depending therefrom, is respectfully requested.

Claims 19 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. in view of Frankel and further in view of Gebert (US 3,773,298).

Gebert is cited as allegedly including the limitations of claims 19 and 20 that are not disclosed in Sulzbach et al. or Frankel and thus does not cure the deficiencies of Sulzbach et al. and Frankel with respect to claim 17, from which claims 19 and 20 depend.

Withdrawal of the rejection under 35 U.S.C. 103(a) of claims 19 and 20 is respectfully requested.

Claim 22 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sulzbach et al. in view of Frankel.

In view of the above arguments with respect to why claim 17 is not unpatentable over Sulzbach et al. in view of Frankel, withdrawal of the rejection under 35 U.S.C. 103(a) of claim 22, which depends from claim 17, is respectfully requested.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,

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